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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,742	09/17/2003	Hiroyasu Hamamura	914-172	2645

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EXAMINER

LAY, MICHELLE K

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,742

Applicant(s)

HAMAMURA ET AL.

Examiner

Michelle K. Lay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/08/2004
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 's4' in Fig. 5A. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, and 5 – 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Mori et al. (US Patent No. US 6,507,358 B1).

Mori et al. discloses a multi-lens pickup apparatus provided with plural image pickup systems an image display capable of displaying either stereoscopic or panoramic images. Thumbnails may be displayed corresponding to the stereoscopic or panoramic image [column 3, lines 63 – 68 – column 4, lines 1 – 5].

In regards to claim 1, 10 –

Referring to Fig. 5, the left and right image pickup systems (52), (53) are arranged in converging or parallel manner, in order to pick up images that can be observed stereoscopically, and the liquid crystal display (LCD) (54) is capable of stereoscopic display, so that the observer can observe, by the LCD (54), a stereoscopic image at a rate same as the image pickup rate [column 7, lines 18 – 24]. It would have been known in the art at the time the invention was made that stereoscopic images are three-dimensional. Figs. 8A – 8C illustrate a stereoscopic image generated by the process circuit (66) shown in Fig. 6, wherein shown is a stereoscopic image (81) in the VRAM, a left image (82), and a right image (83) (claim 1, 10). In order to display the stereoscopic image on the LCD (54), an interlaced image (81) has to be synthesized from the left and right images (82), (83) [column 8, lines 3 – 9]. JPEG compression is employed where the compressed data is stored in the work memory (632) of Fig. 15 where the left and right compressed images are paired for file management [column 14, lines 30 – 34]. Identification information for identifying the paired images is simultaneously recorded in the file management area. Also, there is recorded a thumbnail image together with the main image. The thumbnail image means a reduced image, for example of a size of

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80x60 pixels, in comparison with the main image (claim 1, 10) [column 14, lines 35 – 39].

In regards to claim 2 –

It is possible to switch the system from the stereoscopic image pickup to the panoramic image pickup by changing the direction of the left and right image pickup images (52), (53) of Fig. 5 from the converging or parallel arrangement to the diverging arrangement [column 8, lines 55 – 58]. The liquid crystal display (54) may be used for observing both the stereoscopic image and the panoramic image [column 8, lines 63 – 64]. It would have been known in the art at the time the invention was made that a panoramic image is two-dimensional.

In regards to claim 5 –

As the thumbnail images stored in the work memory (632) (claim 5) of Fig. 15 are JPEG compressed, thumbnail images are selected and transmitted to the signal processing circuit (527), and displayed on the liquid crystal display (504) [column 15, lines 12 – 15]. Within the thumbnail images prepared as a pair, either one is used for display. Fig. 17 shows the display state of thumbnail images (700) (claim 5) [column 15, lines 19 – 21].

In regards to claim 6 –

It is possible to switch the system from the stereoscopic image pickup to the panoramic image pickup by changing the direction of the left and right image pickup images (52), (53) of Fig. 5 from the converging or parallel arrangement to the diverging arrangement (claim 6) [column 8, lines 55 – 58]. The liquid crystal display (54) may be used for observing both the stereoscopic image and the panoramic image [column 8, lines 63 – 64]. It would have been known in the art at the time the invention was made that a panoramic image is two-dimensional. At the recording of the panoramic image, a thumbnail is prepared and recorded [column 16, lines 32 – 34]. Fig. 19 shows the display state of the thumbnail images of the panoramic images, illustrating thumbnail images (800). The thumbnail image of the panoramic image is synthesized by calculating the overlapping area size for the thumbnail image, based on the overlapping area size of the main images (claim 6) [column 16, lines 37 – 42].

In regards to claim 7 –

Referring to Fig. 5, the left and right image pickup systems (52), (53) are arranged in converging or parallel manner, in order to pick up images that can be observed stereoscopically (claim 7), and the liquid crystal display (LCD) (54) is capable of stereoscopic display, so that the observer can observe, by the LCD (54), a stereoscopic image at a rate same as the image pickup rate [column 7, lines 18 – 24]. It would have been known in the art at the time the invention was made that stereoscopic images are three-dimensional comprising of two, two-dimensional images, one being the left and

the other being the right. Figs. 8A – 8C illustrate a stereoscopic image generated by the process circuit (66) shown in Fig. 6, wherein shown is a stereoscopic image (81) in the VRAM, a left image (82), and a right image (83) (claim 7). In order to display the stereoscopic image on the LCD (54), an interlaced image (81) has to be synthesized from the left and right images (82), (83) [column 8, lines 3 – 9].

In regards to claim 8 –

As the thumbnail images stored in the work memory (632) of Fig. 15 are JPEG compressed, thumbnail images are selected and transmitted to the signal processing circuit (527), and displayed on the liquid crystal display (504) [column 15, lines 12 – 15]. The liquid crystal display (504) is in a two-dimensional display mode, and flag information indicating the stereoscopic image is displayed together with the thumbnail image (claim 8) [column 17, lines 15 – 18]. Within the thumbnail images prepared as a pair, either one is used for display. Fig. 17 shows the display state of thumbnail images (700) [column 15, lines 19 – 21].

In regards to claim 9 –

Referring to Fig. 5, the left and right image pickup systems (52), (53) (claim 9) are arranged in converging or parallel manner, in order to pick up images that can be observed stereoscopically, and the liquid crystal display (LCD) (54) is capable of stereoscopic display, so that the observer can observe, by the LCD (54), a stereoscopic image at a rate same as the image pickup rate (claim 9) [column 7, lines 18 – 24]. It

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would have been known in the art at the time the invention was made that stereoscopic images are three-dimensional comprising of two, two-dimensional images, one being the left and the other being the right. Figs. 8A – 8C illustrate a stereoscopic image generated by the process circuit (66) shown in Fig. 6, wherein shown is a stereoscopic image (81) in the VRAM, a left image (82), and a right image (83) (claim 9) [column 8, lines 3 – 9].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (US Patent No. US 6,507,358 B1) in view of Takiguchi (US Patent No. US 6,868,192 B2).

Mori et al. discloses the claimed limitations of claim 3 with the exception of teaching cutting portions of data that exceeds the size of the shrunken image. However, Takiguchi discloses an image processing apparatus where a reduced image is generated by cropping a section of the target image when the target image is sufficiently laterally wide or vertically long.

Mori et al. discloses a multi-lens pickup apparatus provided with plural image pickup systems an image display capable of displaying either stereoscopic or

panoramic images. Thumbnails may be displayed corresponding to the stereoscopic or panoramic image [column 3, lines 63 – 68 – column 4, lines 1 – 5].

Takiguchi discloses an image processing apparatus in which is case of a laterally-wide or vertically-long image, the user can easily and certainly recognize it by a thumbnail display [column 3, lines 1 – 2]. As shown in Fig. 1, a terminal apparatus (100) comprises a personal computer having a function such that a number of images obtains by external equipment such as scanner, digital camera, or the like are fetched into the apparatus by activating image management list display software and displayed as a list (thumbnail display) [column 3, lines 65 – 68 – column 4, lines 1- 4]. The terminal apparatus (100) has a display (102) for displaying various data [column 4, lines 5 – 7]. Shown in Fig. 2, the image management list display process unit (201) fetches a number of images obtained by the external equipment into the terminal apparatus (100), managing those images, and displaying a list of them (thumbnail display) [column 4, lines 50 – 54]. The image management list display process unit (201) performs a reducing process to the target image file in the memory so that the target image file goes in the thumbnail frame of a predetermined size, and adds the target image file after completion of the reducing process as thumbnail data into the thumbnail file (302) shown in Fig. 3 [column 6, lines 7 – 12]. The image list display process unit (201) displays a list of the thumbnail data in the thumbnail file (302) onto the window (902) of Fig. 11 in the picture plane (900) displayed by the display (102) of Fig. 1 through the drawing management process unit (207) and video I/F (213) [column 6, lines 55 – 59]. Referring to the flowchart in Fig. 5, the image management list display process unit

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(201) discriminates whether an aspect ratio of the image (601) shown in Fig. 6 is larger than a predetermined value or not [column 7, lines 3 – 5]. If the ratio of the lateral size X and vertical size Y of the image (601) is larger than a predetermined value, the image management list display process unit (201) picks out the image in which the ratio of the lateral size Z and vertical size Y is equal to the predetermined value from the mid section of the image (601) and generates it (claim 3) [column 7, lines 24 – 32]. If the aspect ratio of the image (601) is not larger than the predetermined value, the image management list display process unit (201) performs a reducing process to the image (601) itself so as to go in a thumbnail frame (602) of a predetermined size (claim 3) [column 7, lines 40 – 44].

Therefore, it would have been obvious at the time the invention was made to include the cropping feature of Takiguchi with the invention of Mori et al. so that in case of a laterally-wide or vertically-long image, the user can easily and certainly recognize it by a thumbnail image [column 3, lines 1 – 2].

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (US Patent No. US 6,507,358 B1) in view of "The Authoritative Dictionary of IEEE Standards, 7th edition".

Mori et al. teaches the claimed limitations of claim 4 with the exception of disclosing the image data as bitmap data. Figs. 8A – 8C illustrate a stereoscopic image generated by the process circuit (66) of Fig. 5, wherein shown is a stereoscopic image (81) in the VRAM, a left image (82), and a right image (83). In order to display the stereoscopic

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image on the liquid crystal display (54), an interlaced image (81) has to be synthesized from the left and right images (82), (83) [column 8, lines 3 – 7]. The system of Mori et al. would have been considered a digital system where the images captured by the left and right image pickup systems (52), (53) would be a digital image. It would have been known to one in the art at the time the invention was made that a digital image is made up of an array of pixels, where each pixel has an associated value [IEEE: pg. 306]. Furthermore, it would have been obvious to one in the art at the time the invention was made to consider the right and left image data generated by the process circuit (66) to be bitmap data since a bitmap contains a block of memory that stores a raster image where the characteristics of each pixel are determined by a set of bits [IEEE: pg. 104]. The VRAM (28) would have provided a means to store the image data to be displayed on the LCD (54).

Conclusion

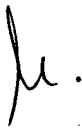
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle K. Lay whose telephone number is (571) 272-7661. The examiner can normally be reached on Monday - Friday, 7:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mkl 04.26.2005



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